A Comparative View of the Flora of Indiana.—A recent paper by Mr. Lester F. Ward, entitled "Field and Closet Notes on the Flora of Washington and Vicinity," has suggested the filling in of some of his tables with similar statements in regard to the flora of Indiana. I use, without verification, Mr. Ward's estimates of the flora of the Eastern United States, being the region covered by the Manuals of Drs. Gray and Chapman, and give in the first table the sixteen largest orders in the Flora of Washington and vicinity, in the flora of the Eastern United States, and in the flora of Indiana, the sixteen being arranged in the order of their importance. For convenience, Mr. Ward's list will be headed D. C. :

D. C.	*E. U. S.*	*Ind.*
1. Compositæ	1. Compositæ	1. Compositæ
2. Gramineæ	2. Cyperaceæ	2. Cyperaceæ
3. Cyperaceæ	3. Gramineæ	3. Gramineæ
4. Leguminosæ	4. Leguminosæ	4. Leguminosæ
5. Rosaceæ	5. Filices	5. Labiatæ
6. Labiatæ	6. Labiatæ	6. Rosaceæ
7. Cruciferæ	7. Rosaceæ	7. Scrophulariaceæ
8. Scrophulariaceæ	8. Scrophulariaceæ	8. Liliaceæ
9. Filices	9. Ericaceæ	9. Filices
10. Ranunculaceæ	10. Liliaceæ	10. Ranunculaceæ
11. Ericaceæ	11. Ranunculaceæ	11. Cruciferæ
12. Cupuliferæ	12. Cruciferæ	12. Orchidaceæ
13. Orchidaceæ	13. Orchidaceæ	13. Polygonaceæ
14. Liliaceæ	14. Umbelliferæ	14. Umbelliferæ
15. Polygonaceæ	15. Polygonaceæ	15. Caryophyllaceæ
16. Umbelliferæ	16. Cupuliferæ	16. Ericaceæ

It will thus be seen that the flora of Indiana is more normal than that near Washington, and that, omitting the *Filices* and *Ericaceæ* (our most poverty stricken orders) the second and third lists correspond with great exactness. These lists alone would indicate some unusual conditions in the vicinity of Washington, and such we find in the blending of the floras of north and south, as indicated by Mr. Ward. In comparing the first list with the third we notice that the *Liliaceæ* rise from the 14th place to the 8th, the *Cupuliferæ* drop out entirely, being the 17th in order of importance; the *Caryophyllaceæ* come into the first 16; and the *Ericaceæ* drop from the 11th place to the 16th. Mr. Ward shows that his local flora is richest proportionally in the *Cupuliferæ, Rosaceæ* and *Cruciferæ*, and poorest in the *Filices* and *Leguminosæ*. The *Cupuliferæ*, in fact, form the greatest peculiarity of the flora, containing as many as 58 per cent. of the species occurring in the whole of the Eastern part of the United States. The Indiana flora, compared with the same standard, is richest in the *Rosaceæ, Polygonaceæ* and *Cupuliferæ*, but none of them so abnormally represented as the *Cupuliferæ* near Washington, the *Rosaceæ* rising to but 48 per cent. The abundant *Cruciferæ* of Mr. Ward's list, in Indiana yield in importance to the *Liliaceæ, Ranunculaceæ* and *Labiatæ*, and just equal the *Orchidaceæ*. The Indiana flora is proportionally poorest in the *Filices* and *Ericaceæ*.

Comparing the 15 large genera listed by Mr. Ward with the

same number found in the Indiana flora, and arranging as before in the order of importance, the result is as follows.

D. C.	*Ind.*
1. Carex	1. Carex
2. Aster	2. Solidago
3. Panicum	3. Aster
4. Solidago	4. Polygonum
5. Quercus	5. Viola
6. Polygonum	6. Quercus
7. Desmodium	7. Desmodium
8. Salix	8. Helianthus
9. Juncus	9. Salix
10. Viola	10. Juncus
11. Cyperus	11. Panicum
12. Ranunculus	12. Ranunculus
13. Eupatorium	13. Euphorbia
14. Helianthus	14. Cyperus and Potamogeton
15. Asclepias	15. Galium and Scirpus

It will be noted that in the second list *Eupatorium* drops out, appearing in the Indiana flora as No. 25; *Asclepias* also drops out, being No. 20; *Panicum* drops from 3 to 11, and *Viola* rises from 9 to 5. It would seem that *Panicum* is the characteristic genus of the vicinity of Washington, while no single genus can be so ranked in the flora of Indiana, *Helianthus*, *Euphorbia*, *Viola* and several others being equally characteristic.—J. M. C.

Beginning Botany.—I want to tell you a little about my mode of teaching botany to beginners. Before long I will send you a copy of a lecture on this subject.

I set a student on the very start to studying some natural object, as a plant, a seed, a flower, a vine. He is asked to state to the class on the following day what he has discovered. One of the first points is to teach him to see and to become reliable and independent. To acquire this habit he is set to looking. To help him he is often asked to compare two branches of different trees, or two flowers of different species or genera, or two seeds or fruits.

I require students to write out more or less their observations. For this work credit is given, as well as for class recitations. This is not only done in the botany class, but our Professor of the English language, finds such topics among the best he can select for the practice of young students. Many of the essays required are accompanied by drawings which help to explain certain points. As an example of this work, I send a short paper prepared by a member of the Freshman class. It must be remembered that he is a beginner; that he used no books, but went to the plants to get his facts. He had been studying plants for a few weeks. He had been referred to an elementary book for some names. He had received some hints on some points from his teacher while in the class room. Of course, he picked up more or less from his classmates during recitations, in which they spoke of kindred topics:

THE FERTILIZATION OF THE TRUMPET-CREEPER, BY GEORGE SPRANG.—In the bud the calyx of the Trumpet-Creeper is valvate and encloses the other